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ABSTRACT

This report from the Freedom of Information Center outlines the kinds of reports that are available from the Nuclear Regulatory Commission (NRC), including operating, radiological, environmental, licensee events, technical data, inspections, financial statements of facilities, and other licensee reports; and the kinds of information they contain. In addition, the report provides information about where the records are available, other sources of material on nuclear energy issues, and the organization of the NRC. Copies of forms used by the NRC are appended. (TJ)

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SCHOOL OF JOURNALISM, UNIVERSITY OF MISSOURI AT COLUMBIA
JULY, 1979

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FREEDOM OF INFORMATION CENTER REPORT NO. 406

ACCESS TO NRC RECORDS

This report was written by Steve Kalin, a recent graduate of the University of Missouri School of Journalism.

Introduction

The recent accident at the Three Mile Island nuclear power plant provided journalists with their biggest story of the year. Reporters from all the major news organizations flocked to Middletown, Pa., to cover the most serious accident in 25 years of commercial reactor operation.

But journalists do not have to wait for a disaster to strike before they can get a story out of a nuclear plant. A careful and regular examination of the reports all nuclear power plants are required by law to file with the Nuclear Regulatory Commission will be helpful for the journalist, as well as other interested persons. All these reports are public records and are available at local Public Document Rooms established by the NRC and located all over the country.

This paper will describe what kinds of reports are available — operating, radiological, environmental, inspection, special incident — and the kinds of information they contain. Also covered are where the records are available and other sources of information on nuclear energy issues.

NRC Organization

The Nuclear Regulatory Commission began official operation on Jan. 19, 1975, the effective date of the Energy Reorganization Act of 1974. That law dissolved the Atomic Energy Commission and created both the NRC and the Energy Research and Development Administration. ERDA later became part of the Department of Energy. The NRC remains today an independent regulatory agency.

The NRC is directed by five commissioners who are appointed by the president to serve five-year terms. Under the Energy Reorganization Act, the NRC is responsible for assuring the safe operation of 72 reactors now licensed to produce electricity and about 30 facilities that mine uranium ore, convert it into nuclear fuel or store radioactive waste.

The NRC also is required to oversee the design and construction of 92 additional reactors now being built in the United States. Finally, it is responsible for supervising about 8,000 hospitals, universities and industrial firms that possess licenses to operate a variety of nuclear devices for manufacturing, medicine and research.

The work of the NRC is conducted by four regulatory "line" offices. The first, the Office of Nuclear Reactor Regulation, licenses nuclear reactors built for power, testing and research. The NRR reviews license applications to ensure the proposed reactor can be built and operated with minimal risk to the health and safety of the public and minimal adverse impact on the environment. NRR monitors operating reactors during their lifetime. NRR also reviews the financial responsibility of each applicant for a construction permit, confirms that each applicant is properly insured against accident and verifies that the applicant is not in violation of antitrust laws.

The Office of Nuclear Material Safety and Safeguards licenses and regulates facilities involved in the processing, transport and handling of nuclear materials. NMSS assesses safeguards against potential threats, sabotage to nuclear facilities and theft of enriched uranium or plutonium that could be used to manufacture nuclear weapons.

The Office of Nuclear Regulatory Research conducts research programs designed to enhance the effectiveness of NRC regulations. Research programs cover reactor safety, health effects associated with the nuclear fuel cycle, the environmental impact of nuclear power, waste treatment and disposal, and transportation of radioactive materials.

The Office of Inspection and Enforcement inspects nuclear facilities to determine if they are constructed and operated in compliance with license provisions and NRC regulations. I&E investigates accidents and incidents involving nuclear material and facilities. I&E also inspects new facilities to provide a basis for recommending issuance or denial of a license.

The Advisory Committee on Reactor Safeguards is a panel of 15 independent scientists and engineers who advise the NRC on the safety of proposed and existing nuclear power reactors and other major nuclear facilities. The committee also advises the NRC on a wide range of safety matters, such as the adequacy of proposed reactor safety standards and reactor safety research.

Operating Reports

All nuclear power plants are required by the terms of their operating licenses to file with the NRC certain routine

Summary: Reports filed by nuclear power plants with the Nuclear Regulatory Commission are available to the public at local Public Document Rooms or through a Freedom of Information Act request. Described here are the kinds of reports and the information they contain, as well as additional sources of material on nuclear energy issues.

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reports: the Start-up Report, the Annual Operating Report and the Monthly Operating Report.

The Start-up Report contains information on plant start-up and power escalation testing. It describes the results of tests conducted during the start-up of a plant and compares them to predicted results. The report is highly technical.

Start-up Reports are submitted within 90 days after completion of the tests, 90 days following resumption or commencement of commercial power operation or nine months following initial criticality (a reactor is said to be critical when a sustained chain reaction has started).

The Annual Operating Report contains a comprehensive summary of a plant's operating and maintenance experience during the past year. The NRC uses the reports to produce an evaluation of operating and maintenance experience throughout the nuclear power industry.

The Annual Operating Report contains three sections. The first is a narrative summary of the operating experience for the past year, listing the major events on a day-to-day basis; for example, equipment failures that forced a shutdown of the reactor, planned shutdowns for maintenance and resumption of criticality.

The second section concerns completed design-change requests for the entire year. It is a compilation of data collected once a month through a Monthly Operating Report. This section reports design changes made in any of the plant's systems and whether or not the changes were made for safety reasons. For instance, one plant reported an alteration to the radiological monitoring system that involved replacing one pump with a new one considered more reliable. The plant also reported changing a piece of equipment in the security system to reduce wind-generated false alarms.

The third section reports the extent of worker exposure to radiation. This section will be described more fully later in the paper.

The Monthly Operating Report provides much detailed operating information. The first section of the report is the Average Daily Unit Power Level (see Appendix A). This tells how much electricity (in megawatts) the plant produced on every day of the month. This data can be used to detect patterns of local consumption of electricity. How does demand fluctuate relative to such things as seasons, price and energy-conservation programs?

The second section is the Operating Data Report, which contains a wide range of operating information (see Appendix B). "Capacity factor" and "availability factor" are two gauges of a power plant's performance. Capacity factor is a percentage measuring the kilowatt hours produced in a given period, compared with the maximum number that could be produced. Availability factor shows the percentage of time in a given period that a plant is available for use, regardless of its actual use. The average capacity factor for nuclear plants in 1977 was 66.2 percent; the average availability factor was 76.5 percent.

The third section of the report is Unit Shutdowns and Power Reductions (see Appendix C). This tells how many times the reactor was shut down and why. Was the shutdown because of equipment failure, or was it scheduled due to planned maintenance? A nuclear power plant in New Jersey reported in one month 11 shutdowns, eight of which were due to equipment failure.

The Monthly Operating Report also includes sections on major plant modifications and their effect on plant safety; a summary of safety-related maintenance, which reports equipment failures and corrective action; a day-to-day operating summary; and refueling information, including the scheduled date of the next refueling, the number of fuel assemblies presently in spent fuel storage and the spent fuel capacity.

The information in the operating reports can be used to make comparisons between nuclear power plants and fossil power plants. How much oil or coal or natural gas would be required to supply the same amount of energy generated by a local nuclear power plant? How do the capacity and availability factors for a nuclear plant compare to those for a coal or oil plant? How much does it cost a utility to produce a nuclear kilowatt hour, on average, compared to the costs for oil or coal in the same area?

These kinds of comparisons are likely to be favorable to nuclear energy. Anyone interested in this kind of comparative economic analysis should ask the utility for information.

Radiological Reports

The greatest potential threat to human life posed by the operation of nuclear power plants is the release of excessive amounts of radiation. Therefore, this category of reports is especially important. All plants file three reports based on measurements of radioactivity.

Taking a Look at a Local PDR

Curious as to whether there was a Public Document Room in our area, the FoI Center staff checked around and located one in the Callaway County Public Library in Fulton, Mo. Named a depository roughly four years ago, the library receives materials about the Callaway nuclear reactor, which is now under construction outside Fulton. The PDR is one of two in Missouri, with the second located at Washington University in St. Louis.

On hand at the Fulton PDR are such documents as Environmental Impact Statements, transcripts of hearings, and letters to the NRC concerning the Callaway reactor. Librarian LaDonna Justice says she usually receives one thick envelope of material from the NRC every week.

Because of space problems, the library does not have a separate room for the material. The most frequently used documents are kept on top of the card catalog, easily and fully accessible. Other documents are kept downstairs. Initially, Ms. Justice says, the library was asked to lock the materials in a vault every night, but that proved impossible. None of the documents can be checked out, though a copy machine is available.

The materials are used a fair amount, Ms. Justice says. And the users can be anyone from high school students to newspaper reporters.

The two Columbia reporters we checked with were both familiar with the PDR, though only one had ever used its materials. Chris Conway of the Columbia **Daily Tribune** says he finds the documents helpful, but often too technical. There is an "unbelievable amount of information," he says, and the small library is not equipped to catalog it in an orderly fashion. As a result, Conway says, trying to find a specific document is "like looking for a needle in a haystack."

The Annual Environmental Operating Report — Radiological identifies and quantifies the concentration of radioactive materials in the environment surrounding the plant. Samples are taken from nearby bodies of water and aquatic life, the atmosphere, rain water, potable water, milk, beef, crops, vegetables and soil. Measurements of radioactivity found in the samples are compared to measurements made before the plant began operation; the results are reported to the NRC. If harmful levels of radiation are detected, the plant must provide an analysis of the problem and proposed corrective action.

Usually, measurements will be well within the limits set by the NRC. Any excessive radiation would be immediately reported in a Licensee Event Report (see Appendix D). However, the information in the radiological report is still useful. For example, in 1977 the measurements of radiation in the area around one plant in New Jersey were unusually high during a period when the plant was shut down for maintenance. In its report to the NRC, the utility estimated that the abnormal readings were due to fallout from a Chinese atmospheric test of a nuclear weapon that year.

The Radioactive Effluent Release Report is filed every six months and shows the quantity of radioactive discharges released into the environment from liquids, gases and solid wastes. The data are used by the NRC to estimate the maximum potential annual radiation doses to the public resulting from the radioactive discharges. The maximum individual level permitted by the NRC is at present 500 millirems of whole body exposure in one year. The report also must indicate any abnormally high releases of radioactivity that occurred.

The report estimates how much radiation a person living in the area around the plant would have absorbed by eating and breathing and compares this to the level of natural background radiation that existed before the plant was built. For example, one plant in New Jersey estimated in 1978 that direct radiation from the plant to an individual amounted to 4.46 millirems per month, compared to 4.42 millirems from natural background radiation.

The effluent release report also tells how much solid waste and spent fuel was shipped offsite, where it was shipped and how it was transported.

The Personnel Exposure Report, which is part of the Annual Operating Report, discloses to what extent plant workers were exposed to radiation greater than 100 millirems per year. The information is categorized according to job function (see Appendix E). Workers in reactor operations and special maintenance normally have higher levels of exposure due to the nature of their work.

A second part of the report lists the number of workers who received measured amounts of estimated whole body exposure, starting with no measurable exposure and ending with over 12 rems of exposure.

NRC regulations at present limit a worker's exposure to a maximum of three rems of whole body exposure in one calendar quarter and five rems for one year. Worker exposure to radiation is a controversial issue. Experts in the nuclear power community assert that the NRC levels are safe, but critics of nuclear power argue that there is no such thing as a "safe" level of radiation. The NRC limits might be lowered as research into the relationship between cancer and low-level radiation progresses.

Another problem with radiation is that as a plant ages, radioactive deposits (called "crud") accumulate in the pipes of the cooling system. The buildup eventually forces the plant to shut down long enough to remove the crud. Personnel Exposure Reports could be reviewed for several years to see if they indicate rising levels of worker exposure to radioactivity.

Environmental Reports

NRC regulations require environmental impact reports to be filed both on a one-time and on a recurrent basis. An extensive report must be filed by a utility when it applies for a construction permit to build a nuclear power plant, and a second environmental report must be submitted with the application for an operating license. These reports, which are extremely detailed, discuss the impact on the environment from construction and operation of the plant, including probable adverse effects. The planning and construction phases of the plant take years to complete.

The NRC issues two environmental reports, a Draft and a Final Environmental Impact Statement, which cover much of the same information as the reports filed by the utility. They also contain predictions of how much radiation people living around the plant can expect to receive; the predicted effects of a transportation accident involving nuclear fuel or radioactive solid waste; and the degree of people's radiation exposure during the transportation of nuclear fuel or solid waste.

The Annual Environmental Operating Report — Non-Radiological describes what impact the operation of the plant is having on the environment on a year-to-year basis. Every operating plant discharges chemicals and heat into the water and soil around it. The NRC sets acceptable limits to these discharges, and the plant has the responsibility to ensure that the limits are not exceeded. Measurements made during the year are compared to measurements taken before the plant was built. If harmful effects are observed, the plant must prepare an analysis of the problem and a corrective course of action.

The annual report includes data from a separate monthly report filed by the plant, the Impingement Monitoring Report, which keeps track of how many fish and other aquatic organisms are killed by the suction from the plant's intake water screens.

Licensee Event Reports

The NRC requires all licensees to inform the agency of "reportable occurrences," incidents that violate NRC regulations, exceed technical and environmental operating limits, or threaten public safety. This type of report, a Licensee Event Report, is submitted on a special form designed for computer processing (see Appendix D). Depending on the nature of the problem, an LER must be filed within 24 hours by telephone to the regional NRC office, with a written follow-up report due two weeks later. Less serious incidents can be reported within 30 days.

"Abnormal occurrences" are incidents taken from LERs that the NRC decides are significant from the standpoint of public health and safety. For example, an LER submitted by a plant in New Jersey indicated a discovery that valves — designed to close automatically to prevent the escape of high intensity radiation from the reactor core in an emergency — were broken and would not close automatically. The NRC declared this to be an abnormal occurrence.

A plant will normally submit hundreds of LER's a year, most of which are inconsequential (administrative error or failure of a worker to perform an equipment test correctly). In the case of an LER which reports an equipment failure, a

journalist, or other interested party, could ask the utility or other nuclear experts to assess the significance of the LER.

The following kinds of events would require an immediate LER:

1. Exposure of plant workers or the public to radiation above permissible levels.
2. Excessive or inadvertent release of radioactive material from fluid or gas discharges.
3. Detection of significant amounts of radiation in the area around the plant.
4. Damage to the plant from fire, weather or sabotage.
5. An unscheduled shutdown expected to last more than one week.
6. A breach of security systems protecting the plant.
7. Theft or loss of nuclear fuel.

Less serious incidents involving equipment failures or failure of a safety system to operate in a test would be reported within 30 days.

Technical Data

A complete analysis of the technical design of the plant can be found in the Final Safety Analysis Report filed by the utility. This report contains information on vulnerability of the plant to damage from earthquakes, tornadoes and floods; design of the reactor and reactor coolant system; design of safety systems; design of radioactive waste management systems; design of radiation protection systems; emergency planning; and other technical data.

The NRC issues a Safety Evaluation Report summarizing the commission's view of the plant's impact on public health and safety. It contains the same kind of information found in the utility's report.

Inspection Reports

A plant receives inspection from the NRC continually throughout its lifetime. The results of the inspections into safety, reactor operations, administration, environment, test programs and quality assurance are available to the public. The reports provide information on what areas the NRC inspectors found to be defective in complying with NRC regulations. For example, one plant modified the valves on the liquid waste disposal system without following NRC procedures. And, a worker was exposed to excessive amounts of radioactive material in the air because required tests were not carried out.

Following the inspection, the plant must report to the NRC what measures it has taken to correct the deficiencies.

Financial Reports

NRC regulations require utilities that own and operate nuclear power plants to file copies of their annual stockholders' reports. These reports contain information on income and operating expenses, balance sheet statements of assets and liabilities, taxes paid, corporate debt, capital stock and other information.

The Safety Evaluation Report details the amount of liability insurance against accidents carried by the utility.

Other Licensee Reports

Licensees other than nuclear power plants — that is, fuel fabrication facilities, uranium mining and milling companies and special nuclear material licensees — are required to submit personnel exposure, effluent and licensee event reports containing the same information reported by plants.

In addition, these other licensees are required to submit annual reports of their nuclear material inventories; reports of special nuclear material received, produced, possessed, transferred, consumed or lost (called Material Status

Other Sources of Information

1. All rules and regulations governing the Nuclear Regulatory Commission are found in Title 10, Energy, Parts 0 to 199 of the Code of Federal Regulations (the collection of all laws promulgated by executive branch departments and agencies). The code spells out in detail all licensee reporting requirements. A copy can be obtained at the local Public Document Room or by writing the Government Printing Office in Washington, D.C.

The NRC Annual Report is a useful source of information, including a listing of all local PDRs.

2. The NRC's main offices are located in Washington, D.C., and Bethesda, Md. Regional offices are located in Philadelphia, Atlanta, Chicago, Dallas and San Francisco. A person seeking information would normally call the Public Affairs Office. Alternatively, a copy of the NRC telephone book can be obtained from the Government Printing Office and the appropriate NRC office or division called direct.

3. The NRC publishes Regulatory Guides for use by licensees. Regulatory Guide 10.1 contains a listing of all reporting requirements for licensees subject to NRC regulations. Regulatory Guide 1.16 describes in detail how to fill out operating reports. Regulatory Guide 4.8 describes in detail what kind of environmental information licensees are required to collect.

4. Every local PDR will have an "accession list" containing a record of every piece of correspondence, including all reports, exchanged between the licensee and the NRC. This record is useful because it provides the date of each item, which is required by the PDR staff in order to pull the file for someone seeking information.

5. Pro-Nuclear Organizations:
   a. Atomic Industrial Forum, Washington, D.C., 301/654-9260; New York, N.Y., 212/725-8300
   b. Americans for Energy Independence, Washington, D.C., 202/466-2105
   c. American Nuclear Energy Council, Washington, D.C., 202/296-4520
   d. American Nuclear Society, La Grange Park, Ill., 312/352-6611; Arlington, Va., 703/521-8806
   e. Department of Energy, Office of Public Affairs, Washington, D.C., 202/252-5466
   f. Edison Electric Institute, New York, N.Y., 212/573-8825; Washington, D.C., 202/862-3800
6. Anti-Nuclear Organizations:
   a. Union of Concerned Scientists, Cambridge, Mass., 617/547-5552
   b. Critical Mass, Washington, D.C., 202/546-4790
   c. Natural Resources Defense Council, Washington D.C., 202/737-5000
   d. Nuclear Information and Resource Service, Inc., Washington, D.C., 202/483-0045

Reports); and reports of any transfer of nuclear material (called Material Transfer Reports). Such reports are not open to the public, because they contain national security or proprietary information. Release of such reports can be requested under the Freedom of Information Act.

Availability of Records

Documents relating to the licensing and operation of a specific nuclear facility are made available to the public in local Public Document Rooms established in the vicinity of the facility. Local PDRs are usually set up in a public or college library. The NRC PDR in Washington, D.C., contains records of all nuclear facilities in the nation. For a list of all local PDRs, contact the Local Public Document Room Branch, Division of Rules and Records, Nuclear Regulatory Commission, Washington, D.C. 20555, phone 301/492-7536.

Appendixes

Appendix A
Average Daily Unit Power Level

AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO. _____
UNIT _____
DATE _____
COMPLETED BY _____
TELEPHONE _____

MONTH _____

DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)	DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)
1		17	
2		18	
3		19	
4		20	
5		21	
6		22	
7		23	
8		24	
9		25	
10		26	
11		27	
12		28	
13		29	
14		30	
15		31	
16			

INSTRUCTIONS

On this form, list the average daily unit power level in MWe-Net for each day in the reporting month. Compute to the nearest whole megawatt.

These figures will be used to plot a graph for each reporting month. Note that when maximum dependable capacity is used for the net electrical rating of the unit, there may be occasions when the daily average power level exceeds the 100% line (or the restricted power level line). In such cases, the average daily unit power output sheet should be footnoted to explain the apparent anomaly.

Appendix B
Operating Data Report

OPERATING DATA REPORT

DOCKET NO. _____
UNIT _____
DATE _____
COMPLETED BY _____
TELEPHONE _____

OPERATING STATUS

1. REPORTING PERIOD _____ GROSS HOURS IN REPORTING PERIOD _____
2. CURRENTLY AUTHORIZED POWER LEVEL (MWt) _____ MAX. DEPEND. CAPACITY (MWe-Net) _____
   DESIGN ELECTRICAL RATING (MWe-Net) _____
3. POWER LEVEL TO WHICH RESTRICTED (IF ANY) (MWe-Net) _____
4. REASONS FOR RESTRICTION (IF ANY):

	THIS MONTH	YR TO DATE	CUMULATIVE
5. NUMBER OF HOURS REACTOR WAS CRITICAL			
6. REACTOR RESERVE SHUTDOWN HOURS			
7. HOURS GENERATOR ON LINE			
8. UNIT RESERVE SHUTDOWN HOURS			
9. GROSS THERMAL ENERGY GENERATED (MWH)			
10. GROSS ELECTRICAL ENERGY GENERATED (MWH)			
11. NET ELECTRICAL ENERGY GENERATED (MWH)			
12. REACTOR SERVICE FACTOR			
13. REACTOR AVAILABILITY FACTOR			
14. UNIT SERVICE FACTOR			
15. UNIT AVAILABILITY FACTOR			
16. UNIT CAPACITY FACTOR (Using MDC)			
17. UNIT CAPACITY FACTOR (Using Design MWe)			
18. UNIT FORCED OUTAGE RATE			

19. SHUTDOWNS SCHEDULED OVER NEXT 6 MONTHS (TYPE, DATE, AND DURATION OF EACH):

20. IF SHUT DOWN AT END OF REPORT PERIOD, ESTIMATED DATE OF STARTUP _____

21. UNITS IN TEST STATUS (PRIOR TO COMMERCIAL OPERATION)

	FORECAST	ACHIEVED
INITIAL CRITICALITY		
INITIAL ELECTRICITY		
COMMERCIAL OPERATION		

Appendix C
Unit Shutdowns and Power Reductions

UNIT SHUTDOWNS AND POWER REDUCTIONS

DOCKET NO. _____
UNIT NAME _____
DATE _____
COMPLETED BY _____
TELEPHONE _____

REPORT MONTH _____

NO.	DATE	TYPE F: FORCED S: SCHEDULED	DURATION (HOURS)	REASON (1)	METHOD OF SHUTTING DOWN THE REACTOR OR REDUCING POWER (2)	CORRECTIVE ACTIONS/COMMENTS

(1) REASON
A: EQUIPMENT FAILURE (EXPLAIN)
B: MAINT. OR TEST
C: REFUELING
D: REGULATORY RESTRICTION
E: OPERATOR TRAINING AND LICENSE EXAMINATION
F: ADMINISTRATIVE
G: OPERATIONAL ERROR (EXPLAIN)
H: OTHER (EXPLAIN)

(2) METHOD
1: MANUAL
2: MANUAL SCRAM
3: AUTOMATIC SCRAM
4: OTHER (EXPLAIN)

SUMMARY

Appendix D
Licensee Event Report

LICENSEE EVENT REPORT

CONTROL BLOCK
LICENSEE NAME
LICENSE NUMBER
LICENSE TYPE
EVENT TYPE
CATEGORY
REPORT TYPE
REPORT SOURCE
DOCKET NUMBER
EVENT DATE
REPORT DATE
CONT'
EVENT DESCRIPTION
SYSTEM CAUSE CODE
CAUSE CODE
COMPONENT CODE
PRIME COMPONENT SUPPLIER
COMPONENT MANUFACTURER
VIOLATION
CAUSE DESCRIPTION
FACILITY STATUS
% POWER
OTHER STATUS
METHOD OF DISCOVERY
DISCOVERY DESCRIPTION
FORM OF ACTIVITY RELEASED
CONTENT OF RELEASE
AMOUNT OF ACTIVITY
LOCATION OF RELEASE
PERSONNEL EXPOSURES
NUMBER
TYPE
DESCRIPTION
PERSONNEL INJURIES
NUMBER
DESCRIPTION
PROBABLE CONSEQUENCES
LOSS OR DAMAGE TO FACILITY
TYPE
DESCRIPTION
PUBLICITY
ADDITIONAL FACTORS

NAME _____ PHONE _____

Appendix E
Personnel Exposure Report

STANDARD FORMAT FOR REPORTING NUMBER OF PERSONNEL AND MAN-REM BY WORK AND JOB FUNCTION

Work & Job Function	Number of Personnel (> 100 mrem)			Total Man-Rem		
	Station Employees	Utility Employees	Contract Workers and Others	Station Employees	Utility Employees	Contract Workers and Others
Reactor Operations & Surveillance						
Maintenance Personnel						
Operating Personnel						
Health Physics Personnel						
Supervisory Personnel						
Engineering Personnel						
Routine Maintenance						
Maintenance Personnel						
Operating Personnel						
Health Physics Personnel						
Supervisory Personnel						
Engineering Personnel						
Inservice Inspection						
Maintenance Personnel						
Operating Personnel						
Health Physics Personnel						
Supervisory Personnel						
Engineering Personnel						
Special Maintenance						
Maintenance Personnel						
Operating Personnel						
Health Physics Personnel						
Supervisory Personnel						
Engineering Personnel						
Waste Processing						
Maintenance Personnel						
Operating Personnel						
Health Physics Personnel						
Supervisory Personnel						
Engineering Personnel						
Refueling						
Maintenance Personnel						
Operating Personnel						
Health Physics Personnel						
Supervisory Personnel						
Engineering Personnel						
TOTAL						
Maintenance Personnel						
Operating Personnel						
Health Physics Personnel						
Supervisory Personnel						
Engineering Personnel						
Grand Total						